Nebraska

NEBRASKA
DEPARTMENT OF
EDUCATION

Math Standards
with
Extended Indicators

for
Students with Significant Disabilities
taking the
NeSA Alternate Assessment Math (NeSA-AAM)

Improving students' ability to learn, communicate, and collaborate through literacy education.

Nebraska Math Standards and
Math Standards with Extended Indicators

The Role of Extended Indicators

For students with significant intellectual disabilities, achieving grade-level standards is not the same as meeting grade-level expectations because their instructional program addresses extended indicators.

It is important for teachers of students with significant intellectual disabilities to recognize that extended indicators are not meant to be viewed as sufficient skills or understandings. Extended indicators must be viewed only as access or entry points to the grade-level standards. The extended indicators in this document are not intended as the end goal, but rather a starting place for moving students forward to conventional reading and writing. Lists following "e.g." in the extended indicator are provided only as possible examples.

Students with Significant Intellectual Disabilities

In the United States, approximately 1% of school-aged children have an intellectual disability that is "characterized by significant limitations both in intellectual functioning and adaptive behavior as expressed in conceptual, social, and practical adaptive skills." (U.S. Department of Education, 2002 and American Association of Intellectual and Developmental Disabilities, 2009) These students show evidence of cognitive functioning in the range of severe to profound and need extensive or pervasive support. In addition to significant intellectual disabilities, students may also have accompanying communication, motor, sensory, or other impairments.

Alternate Assessment Determination Guidelines

The student taking a NeSA Alternate Assessment is characterized by significant limitations both in intellectual functioning and adaptive behavior which is expressed in conceptual, social, and practical adaptive skills and that originates before age 18 (American Association of Intellectual and Developmental Disabilities, 2009). It is important to recognize the huge disparity of skills possessed by students taking an alternate assessment and to consider the uniqueness of each child.

Thus, the IEP team must consider all of the following guidelines when determining the appropriateness of a curriculum based on Extended Indicators and the use of the NeSA Alternate Assessment.

- **The student requires extensive, pervasive, and frequent supports in order to acquire, maintain, and demonstrate performance of knowledge and skills.**
- **The student's demonstrated cognitive ability and adaptive behavior prevent completion of the general academic curriculum, even with appropriately designed and implemented modifications and accommodations.**
- **The student's curriculum and instruction is closely aligned to the Nebraska Reading Standards with extended indicators.**
- **The student may have accompanying communication, motor, sensory, or other impairments.**

Nebraska Third Grade Math Standards and Extended Indicators

for

Students with Significant Disabilities

K-12 Comprehensive Number Sense Standard: Students will communicate number sense concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

NUMBER SYSTEM

MA 3.1.1 Number System: Students will represent and show relationships among positive rational numbers within the base-ten number system.

Indicator	MA 3.1.1.e Demonstrate multiple equivalent representations for numbers up to 10,000
Extended Indicator	**MAE 3.1.1.e Identify representations of whole numbers 0-10**
Indicator	MA 3.1.1.g Compare and order whole numbers through the thousands
Extended Indicator	**MAE 3.1.1.g Compare and order whole numbers 0-10**
Indicator	MA 3.1.1.h Use visual models to represent fractions of halves, thirds, and fourths as parts of a whole and parts of a set
Extended Indicator	**MAE 3.1.1.h Use models to represent halves as parts of a whole and parts of a set**
Indicator	MA 3.1.1.i Round a given number to tens or hundreds
Extended Indicator	**MAE 3.1.1.i Recognize basic numerical concepts of closer and farther**

MA 3.1.2 Operations: Students demonstrate the meaning of multiplication and division with whole numbers.

Indicator	MA 3.1.2.a Represent multiplication as repeated addition using objects, drawings, words and symbols.
Extended Indicator	**MAE 3.1.2.a Represent a number up to 10 in equal sized groups**
Indicator	MA 3.1.2.d Use drawings, words, and symbols to explain the meaning of multiplication using an array (e.g., an array with 3 rows and 4 columns represents the multiplication sentence 3 x 4=12)
Extended Indicator	**MAE 3.1.2.d Use drawings, words, and symbols to explain the meaning of multiplication**

K-12 Comprehensive Geometric/Measurement Standard: Students will communicate geometric concepts and measurement concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

GEOMETRIC/MEASUREMENT CONCEPTS

MA 3.2.1 Characteristics: Students will identify characteristics and describe properties of two dimensional shapes and three-dimensional objects

Indicator	MA 3.2.1.a Identify the number of sides, angles and vertices of two-dimensional shapes
Extended Indicator	**MAE 3.2.1.a Identify two dimensional shapes (circle, square)**

MA 3.2.2 Coordinate Geometry: Students will identify distances on a number line

Indicator	MA 3.2.2.b Determine the distance between two whole number points on a number line
Extended Indicator	**MAE 3.2.2.b Identify a point on a number line**

MA 3.2.2 Measurement: Students will apply appropriate procedures and tools to determine measurements using customary and metric units.

Indicator	MA 3.2.5.e Identify the appropriate customary unit for measuring length, weight, and capacity/volume
Extended Indicator	**MAE 3.2.5.e Identify the purpose of basic tools for measuring time (e.g., calendar, clock)**
Indicator	MA 3.2.5.g Compare and order objects according to length using centimeters and meters
Extended Indicator	**MAE 3.2.5.g Compare and order objects by length**

***K*-12 Comprehensive Algebraic Standard: Students will communicate algebraic concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.**

ALGEBRAIC CONCEPTS

MA 3.3.1 Relationships: Students will represent relationships.

Indicator	MA 3.3.1.a Identify, describe, and extend numeric and non-numeric patterns
Extended Indicator	**MAE 3.3.1.a Extend non-numeric AB patterns (e.g., a b a b a b)**

MA 3.3.2 Modeling in Context: Students will create and use models to represent mathematical situations.

Indicator	MA 3.3.2.a Model situations that involve the addition and subtraction of whole numbers using objects, number lines, and symbols
Extended Indicator	**MAE 3.3.2.a Model situations that involve addition and subtraction of whole numbers 0-10 using objects and symbols**

MA 3.3.3 Procedures: Students will identify and apply properties of whole numbers to solve equations involving addition and subtraction.

Indicator	MA 3.3.3.b Solve simple one-step whole number equations involving addition and subtraction
Extended Indicator	**MAE 3.3.3.b Solve simple one-step single digit equations involving addition and subtraction with sums and difference 0-9**

K-12 Comprehensive Data Analysis/Probability Standard: Students will communicate data analysis/probability concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

DATA ANALYSIS/PROBABILITY CONCEPTS

MA 3.4.1 Display and Analysis: Students will organize, display, compare, and interpret data.

Indicator	MA 3.4.1.a Represent data using horizontal and vertical bar graphs
Extended Indicator	**MAE 3.4.1.a Represent data using vertical bar graphs**
Indicator	MA 3.4.1.c Interpret data using horizontal and vertical bar graphs
Extended Indicator	**MAE 3.4.1.c Interpret data on vertical bar graphs**

Nebraska Fourth Grade Math Standards and Extended Indicators

for

Students with Significant Disabilities

K-12 Comprehensive Number Sense Standard: Students will communicate number sense concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

NUMBER SYSTEM

MA 4.1.1 Number System: Students will represent and show relationships among positive rational numbers within the base-ten number system.

Indicator	MA 4.1.1.b Demonstrate multiple equivalent representations for decimal numbers through the hundredth place
Extended Indicator	**MAE 4.1.1.b Identify representations of whole numbers from 0-20**
Indicator	MA 4.1.1.c Compare and order whole numbers and decimals through the hundredth place
Extended Indicator	**MAE 4.1.1.c Compare and order whole numbers 0-20**
Indicator	MA 4.1.1.e Represent a fraction as parts of a whole and/or parts of a set
Extended Indicator	**MAE 4.1.1.e Use models to represent halves and fourths as parts of a whole and parts of a set**
Indicator	MA 4.1.1.f Use visual models to find equivalent fractions
Extended Indicator	**MAE 4.1.1.f Use models to identify equivalent fractions ½, and whole**
Indicator	MA 4.1.1.h Locate fractions on a number line **Mastery not expected.**

MA 4.1.2 Operations: Students demonstrate the meaning of multiplication and division with whole numbers.

Indicator	MA 4.1.2.a Use drawings, words and symbols to explain the meaning of division
Extended Indicator	**MAE 4.1.2.a Represent a number up to 20 in equal sized groups**

MA 4.1.3 Computation: Students will compute fluently and accurately using appropriate strategies and tools.

Indicator	MA 4.1.3.b Add and subtract decimals to the hundredths place
Extended Indicator	**MAE 4.1.3.b Add and subtract single digit numbers**
Indicator	MA 4.1.3.c Multiply two-digit whole numbers
Extended Indicator	**MAE 4.1.3.c Add equal groups with sums up to 20 (e.g., repeated addition)**
Indicator	MA 4.1.3.e Mentally compute multiplication and division involving powers of 10
Extended Indicator	**MAE 4.1.3.e Use groups of 10 for computation up to 50**
Indicator	MA 4.1.3.f Select and apply the appropriate method of computation when problem solving.
Extended Indicator	**MAE 4.1.3.f Select the appropriate method of computation (addition and subtraction) when problem solving**

K-12 Comprehensive Geometric/Measurement Standard: Students will communicate geometric concepts and measurement concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

GEOMETRIC/MEASUREMENT CONCEPTS

MA 4.2.1 Characteristics: Students will classify two-dimensional shapes and three-dimensional objects.

Indicator	MA 4.2.1.a Identify two- and three- dimensional shapes according to their sides and angle properties
Extended Indicator	**MAE 4.2.1.a Identify two dimensional shapes (triangle and rectangle)**
Indicator	MA 4.2.1.b Classify an angle as acute, obtuse, or right
Extended Indicator	**MAE 4.2.1.b Identify the number of angles/corners of a given shape (e.g., square, triangle, rectangle)**
Indicator	MA 4.2.1.c Identify parallel, perpendicular, and intersecting lines
Extended Indicator	**MAE 4.2.1.c Recognize parallel and intersecting lines**

MA 4.2.2 Coordinate Geometry: Students will describe locations using coordinate geometry

Indicator	MA 4.2.2.a Identify the ordered pair of a plotted point in the first quadrant by its location
Extended Indicator	**MAE 4.2.2.a Determine the distance between two points on a number line**

MA 4.2.5 Measurement: **Student will apply appropriate procedures and tools to estimate and determine measurement using customary and metric units.**

Indicator	MA 4.2.5.b Identify time to the minute on an analog clock
Extended Indicator	**MAE 4.2.5.b Identify time to the hour on an analog clock**
Indicator	MA 4.2.5.c Solve problems involving elapsed time
Extended Indicator	**MAE 4.2.5.c Solve problems involving elapsed time to the hour**
Indicator	MA 4.2.5.d Identify the appropriate metric unit for measuring length, weight, and capacity/volume
Extended Indicator	**MAE 4.2.5.d Determine the appropriate tool for measuring length, capacity/volume, and weight**
Indicator	MA 4.2.5.g Compute simple unit conversions for length within a system of measurement
Extended Indicator	**MAE 4.2.5.g Identify the length of an object using non-standard units (e.g., paper clips, crayons, shoes)**

K-12 Comprehensive Algebraic Standard: Students will communicate algebraic concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

ALGEBRAIC CONCEPTS

MA 4.3.1 Relationships: Students will represent and analyze relationships.

Indicator	MA 4.3.1.c Use symbols to compare quantities
Extended Indicator	**MAE 4.3.1.c Use objects and symbols (<, >, =) to compare quantities.**
Indicator	MA 4.3.1.d Select appropriate operational and relational symbols to make a number sentence true
Extended Indicator	**MAE 4.3.1.d Select appropriate operational symbols (addition and subtraction) to make a number sentence true**

MA 4.3.3 Procedures: Students will identify and apply properties of whole numbers to solve equations involving multiplication and division.

Indicator	MA 4.3.3.c Use symbolic representations of the commutative property of multiplication
Extended Indicator	**MAE 4.3.3.c Identify the commutative property of addition using pictures and models**
Indicator	MA 4.3.3.d Solve simple one-step whole number equations
Extended Indicator	**MAE 4.3.3.d Solve simple one-step single digit equations involving addition and subtraction with sums and differences 0 - 20**

K-12 Comprehensive Data Analysis/Probability Standard: Students will communicate data analysis/probability concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

DATA ANALYSIS/PROBABILITY CONCEPTS

MA 4.4.1 Display and Analysis: Students will organize, display, compare, and interpret data.

Indicator	MA 4.4.1.b Compare different representation of the same data
Extended Indicator	**MAE 4.4.1.b Compare different representations of the same data**
Indicator	MA 4.4.1.c Interpret data and draw conclusions using dot/line plots
Extended Indicator	**MAE 4.4.1.c Interpret data on vertical and horizontal bar graphs**

MA 4.4.2 Predictions and Inferences: Student will construct predictions based on data.

Indicator	MA 4.4.2a Make predictions based on data to answer questions from tables and bar graphs **MASTERY NOT EXPECTED**

Nebraska Fifth Grade Math Standards and Extended Indicators

for

Students with Significant Disabilities

K-12 Comprehensive Number Sense Standard: Students will communicate number sense concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

NUMBER SYSTEM

MA 5.1.1 Number System: **Students will represent and show relationships among positive rational numbers.**

Indicator	MA 5.1.1.a Demonstrate multiple equivalent representations for whole numbers and decimals through the thousandths place
Extended Indicator	**MAE 5.1.1.a Identify equivalent representations of whole numbers 0 - 50**
Indicator	MA 5.1.1.b Compare and order whole numbers, fractions, and decimals through the thousandths place
Extended Indicator	**MAE 5.1.1.b Compare and order whole numbers 0 - 30**
Indicator	MA 5.1.1.c Identify and name fractions in their simplest form and find common denominators for fractions
Extended Indicator	**MAE 5.1.1.c Use models to represent halves, fourths, and thirds as parts of a whole and parts of a set**
Indicator	MA 5.1.1.d Recognize and generate equivalent forms of commonly used fractions, decimals, and percents
Extended Indicator	**MAE 5.1.1.d Use models to identify equivalent fractions ¼, ½, and whole**
Indicator	MA 5.1.1.e Classify a number as prime or composite
Extended Indicator	**MAE 5.1.1.e Classify a number as even or odd**
Indicator	MA 5.1.1.f Identify factors and multiples of any whole number
Extended Indicator	**MAE 5.1.1.f Identify groups of 2s, 5s, and 10s**

MA 5.1.2 Operations: Students demonstrate the meaning of arithmetic operations with whole numbers.

Indicator	MA 5.1.2.c Use words and symbols to explain the distributive property of multiplication over addition **MASTERY NOT EXPECTED**

MA 5.1.3 Computation: Students will compute fluently and accurately using appropriate strategies and tools.

Indicator	MA 5.1.3.a Add and subtract positive rational numbers
Extended Indicator	**MAE 5.1.3.a Add and subtract 2-digit by 2-digit whole numbers without regrouping**
Indicator	MA 5.1.3.b Select, apply, and explain the appropriate method of computation when problem solving
Extended Indicator	**MAE 5.1.3.b Select the appropriate method of computation (addition, subtraction, and multiplication) when problem solving**
Indicator	MA 5.1.3.c Multiply decimals
Extended Indicator	**MAE 5.1.3.c Multiply single-digit numbers (0 to 5)**
Indicator	MA 5.1.3.d Divide a decimal by a whole number
Extended Indicator	**MAE 5.1.3.d Divide single digit numbers by single digit numbers resulting in a quotient that is a whole number**

MA 5.1.4 Estimation: Students will estimate and check reasonableness of answers using appropriate strategies and tools.

Indicator	MA 5.1.4.a Estimate the sums and differences of positive rational numbers to checks the reasonableness of such results
Extended Indicator	**MAE 5.1.4.a Apply estimation to the nearest 10 on addition results.**

K-12 Comprehensive Geometric/Measurement Standard: Students will communicate geometric concepts and measurement concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

GEOMETRIC/MEASUREMENT CONCEPTS

MA 5.2.1 Characteristics: Students will describe relationships among two-dimensional shapes and three-dimensional objects.

Indicator	MA 5.2.1.a Identify the number of edges, faces, and vertices of triangular and rectangular prisms
Extended Indicator	**MAE 5.2.1.a Identify the number of sides of a given polygon**
Indicator	MA 5.2.1.d Identify degrees on a circle
Extended Indicator	**MAE 5.2.1.d Identify the radius and diameter of a circle**

MA 5.2.2 Coordinate Geometry: Students will identify locations using coordinate geometry

Indicator	MA 5.2.2.a Plot the location of an ordered pair in the first quadrant
Extended Indicator	**MAE 5.2.2.a Determine the location of a number on a number line**

MA 5.2.5 Measurement: Student will apply appropriate procedures, tools, and formulas to estimate and determine measurement using customary and metric units.

Indicator	MA 5.2.5.b Identify correct unit (customary or metric) to the measurement situation
Extended Indicator	**MAE 5.2.5.b Identify the customary units for measuring length (e.g., inch, foot, yard, mile)**
Indicator	MA 5.2.5.f Determine the area of rectangles and squares
Extended Indicator	**MAE 5.2.5.f Identify the perimeter of an object**

K-12 Comprehensive Algebraic Standard: Students will communicate algebraic concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

ALGEBRAIC CONCEPTS

MA 5.3.2 Modeling in Context: **Students will create, use, and compare models representing mathematical situations.**

Indicator	MA 5.3.2.a Model situations that involve the addition, subtract, and multiplication of positive rational numbers using words, graphs, and tables
Extended Indicator	**MAE 5.3.2.a Model situations that involve addition and subtraction of numbers up to 50.**

MA 5.3.3 Procedures: **Students will apply properties of simple positive rational numbers to solve one-step equations.**

Indicator	MA 5.3.3.b Use symbolic representations of the associative property
Extended Indicator	**MAE 5.3.3.b Identify the associative property of addition using pictures and models**
Indicator	MA 5.3.3.c Evaluate numerical expressions by using parentheses with respect to order of operations
Extended Indicator	**MAE 5.3.3.c Demonstrate understanding of order of operations involving one digit addition with parentheses**
Indicator	MA 5.3.3.d Evaluate simple algebraic expressions involving addition and subtraction
Extended Indicator	**MAE 5.3.3.d Evaluate simple algebraic expressions involving addition**
Indicator	MA 5.3.3.e Solve one-step addition and subtraction equations involving common positive rational numbers
Extended Indicator	**MAE 5.3.3.e Solve simple one-step equations involving addition**

K-12 Comprehensive Data Analysis/Probability Standard: Students will communicate data analysis/probability concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

DATA ANALYSIS/PROBABILITY CONCEPTS

MA 5.4.1 Display and Analysis: Students will organize, display, compare, and interpret data.

Indicator	MA 5.4.1.a Represent data using line graphs
Extended Indicator	**MAE 5.4.1.a Identify data on a line graph**
Indicator	MA 5.4.1.b Represent the same set of data in different formats
Extended Indicator	**MAE 5.4.1.b Identify the same data in different formats (e.g. table to graph)**
Indicator	MA 5.4.1.c Draw conclusions based on a set of data
Extended Indicator	**MAE 5.4.1.c Interpret data on a line graph**

MA 5.4.3 Probability: Students will determine theoretical probabilities.

Indicator	MA 5.4.3.b Generate a list of possible outcomes for a simple event
Extended Indicator	**MAE 5.4.3.b Identify a possible outcome**

Nebraska Sixth Grade Math Standards and Extended Indicators

for

Students with Significant Disabilities

K-12 Comprehensive Number Sense Standard: Students will communicate number sense concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

NUMBER SYSTEM

MA 6.1.1 Number System: **Students will represent and show relationships among positive rational numbers and integers.**

Indicator	MA 6.1.1.b Compare and order positive and negative integers
Extended Indicator	**MAE 6.1.1.b Compare and order whole numbers up to 40**
Indicator	MA 6.1.1.d Represent large numbers using exponential notation **MASTERY NOT EXPECTED**
Indicator	MA 6.1.1.e Identify the prime factorization of numbers
Extended Indicator	**MAE 6.1.1.e Identify factorization of a number up to 20**

MA 6.1.2 Operations: **Students demonstrate the meaning of arithmetic operations with positive fractions and decimals.**

Indicator	MA 6.1.2.a Use drawings, words and symbols to explain the meaning of addition and subtraction of fractions
Extended Indicator	**MAE 6.1.2.a Use drawings to subtract halves, thirds and fourths from a whole**
Indicator	MA 6.1.2.b Use drawings, words and symbols to explain the meaning of addition and subtraction of decimals
Extended Indicator	**MAE 6.1.2.b Recognize decimal representation of money**

MA 6.1.3 Computation: Students will compute fluently and accurately using appropriate strategies and tools.

Indicator	MA 6.1.3.a Multiply and divide positive rational numbers
Extended Indicator	**MAE 6.1.3.a Multiply positive single digit numbers**
Indicator	MA 6.1.3.b Select and apply the appropriate method of computation when problem solving
Extended Indicator	**MAE 6.1.3.b Select the appropriate method of computation (addition, subtraction, multiplication, and division) when problem solving**

MA 6.1.4 Estimation: Students will estimate and check reasonableness of answers using appropriate strategies and tools.

Indicator	MA 6.1.4.a Use appropriate estimation methods to check the reasonableness of solutions for problems involving positive rational numbers
Extended Indicator	**MAE 6.1.4.a Apply estimation to the nearest 10 on addition and subtraction results**

K-12 Comprehensive Geometric/Measurement Standard: Students will communicate geometric concepts and measurement concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

GEOMETRIC/MEASUREMENT CONCEPTS

MA 6.2.2 Coordinate Geometry: Students will identify locations using coordinate geometry

Indicator	MA 6.2.2.a Identify the ordered pair of plotted point in the coordinate plane
Extended Indicator	**MAE 6.2.2.a Identify the plotted point on a 4 x 4 grid**

MA 6.2.4 Spatial Modeling: Students will use visualization of geometric models to solve problems

Indicator	MA 6.2.4.a Identify two-dimensional drawings of three-dimensional objects
Extended Indicator	**MAE 6.2.4.a Identify a two-dimensional shape and match it to a three-dimensional object (e.g., square to cube, triangle to pyramid, circle to sphere)**

MA 6.2.5 Measurement: Student will apply appropriate procedures, tools, and formulas to estimate and determine measurements.

Indicator	MA 6.2.5.d Determine the perimeter of polygons
Extended Indicator	**MAE 6.2.5.d Determine the perimeter of polygons (triangle, rectangle, square)**
Indicator	MA6.2.5.e Determine the area of parallelograms and triangles
Extended Indicator	**MAE 6.2.5.e Determine the area of a square**
Indicator	MA 6.2.5.f Determine the volume of rectangular prisms MASTERY NOT EXPECTED

K-12 Comprehensive Algebraic Standard: Students will communicate algebraic concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

ALGEBRAIC CONCEPTS

MA 6.3.1 Relationships: Students will represent, analyze, and use relationships to make generalizations.

Indicator	MA 6.3.1.a Describe and create simple algebraic expressions from words and tables
Extended Indicator	**MAE 6.3.1.a Match a simple algebraic expression involving addition to given tables**
Indicator	MA 6.3.1.b Use a variable to describe a situation with an equation
Extended Indicator	**MAE 6.3.1.b Use a symbol to represent a numeric value in a simple equation**

MA 6.3.2 Modeling in Context: Students will create, use, and interpret models of quantitative relationships.

Indicator	MA 6.3.2.a Model contextualized problems using various representations
Extended Indicator	**MAE 6.3.2.a Model representations of coin combinations up to $1.00**

MA 6.3.3 Procedures: Students will apply properties to solve equations.

Indicator	MA 6.3.3.b Evaluate numerical expressions containing multiple operations with respect to order of operations
Extended Indicator	**MAE 6.3.3.b Demonstrate understanding of the order of operations involving one-digit addition, subtraction, and multiplication with parentheses**
Indicator	MA 6.3.3.c Evaluate simple algebraic expressions involving multiplication and division
Extended Indicator	**MAE 6.3.3c Evaluate simple algebraic expressions involving addition and subtraction.**
Indicator	MA 6.3.3.d Solve one-step equations involving positive rational numbers
Extended Indicator	**MA 6.3.3.d Solve simple one step equations involving addition and subtraction**
Indicator	MA 6.3.3.e Identify and explain the properties of equality used in solving equations
Extended Indicator	**MAE 6.3.3.e Solve an addition problem demonstrating the commutative property of equality**

K-12 Comprehensive Data Analysis/Probability Standard: Students will communicate data analysis/probability concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

DATA ANALYSIS/PROBABILITY CONCEPTS

MA 6.4.1 Display and Analysis: Students will organize, display, compare, and interpret data.

Indicator	MA 6.4.1.b Compare and interpret data sets and their graphical representations
Extended Indicator	**MA 6.4.1.b Interpret data on a circle graph**
Indicator	MA 6.4.1.c Find the mean, median, mode and range for a set of data
Extended Indicator	**MA 6.4.1.c Find the mode for a set of data**

MA 6.4.3 Probability: Students will apply basic concepts of probabilities.

Indicator	MA 6.4.3.b Compute theoretical probabilities for independent events
Extended Indicator	**MA 6.4.3.b Determine the theoretical probability of an event using given data**
Indicator	MA 6.4.3.c Find experimental probability for independent events **Mastery not expected**

Nebraska Seventh Grade Math Standards and Extended Indicators

for

Students with Significant Disabilities

K-12 Comprehensive Number Sense Standard: Students will communicate number sense concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

NUMBER SYSTEM

MA 7.1.1 Number System: **Students will represent and show relationships among rational numbers.**

Indicator	MA 7.1.1.a Show equivalence among fractions, decimals, and percents
Extended Indicator	**MAE 7.1.1.a Use models to identify equivalents between fractions and percents (1 and 100%, ½ and 50%, ¼ and 25%)**
Indicator	MA 7.1.1.b Compare and order rational numbers (fractions, decimals, percents)
Extended Indicator	**MAE 7.1.1.b Compare and order numbers up to 50**
Indicator	MA 7.1.1.c Represent large numbers using scientific notation **MASTERY NOT EXPECTED**

MA 7.1.3 Computation: **Students will compute fluently and accurately using appropriate strategies and tools.**

Indicator	MA 7.1.3.a Compute accurately with integers
Extended Indicator	**MAE 7.1.3.a Divide a positive two digit number by a single digit number**
Indicator	MA 7.1.3.b Select, apply, and explain the method of computation when problem solving using integers and positive rational numbers
Extended Indicator	**MAE 7.1.3.b Select and apply the appropriate method of computation (addition, subtraction, and multiplication) when problem solving**
Indicator	MA 7.1.3.c Solve problems involving percent of numbers
Extended Indicator	**MAE 7.1.3.c Compare given percents (greater than, less than, equal to)**

MA 7.1.4 Estimation: **Students will estimate and check reasonableness of answers using appropriate strategies and tools.**

Indicator	MA 7.1.4.a Use estimation methods to check the reasonableness of solutions for problem involving integers and positive rational numbers
Extended Indicator	**MAE 7.1.4.a Apply estimation to the nearest 10 on addition, subtraction and multiplication results**

K-12 Comprehensive Geometric/Measurement Standard: Students will communicate geometric concepts and measurement concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

GEOMETRIC/MEASUREMENT CONCEPTS

MA 7.2.2 Coordinate Geometry: Students will identify locations using coordinate geometry

Indicator	MA 7.2.2.a Plot the location of an ordered pair in the coordinate plane
Extended Indicator	**MAE 7.2.2.a Plot the location of an ordered pair on a 4 x 4 grid**
Indicator	MA 7.2.2.c Find the distance between points along horizontal and vertical lines of a coordinate plane
Extended Indicator	**MAE 7.2.2.c Identify the distance between two given points along horizontal and vertical lines of a grid**

MA 7.2.3 Transformations: Students will use transformations and symmetry to analyze geometric shapes.

Indicator	MA 7.2.3.b Perform and describe positions and orientation of shapes under a single transformation on an coordinate plane
Extended Indicator	**MAE 7.2.3.b Identify congruent shapes**

MA 7.2.5 Measurement: Students will select and apply appropriate procedures, tools, and formulas to determine measurements.

Indicator	MA 7.2.5.b Determine the area of trapezoids and circles, and the circumference of circles
Extended Indicator	**MAE 7.2.5.b Determine the area of a rectangle (not a square)**

K-12 Comprehensive Algebraic Standard: Students will communicate algebraic concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

ALGEBRAIC CONCEPTS

MA 7.3.1 Relationships: Students will represent and analyze relationships using algebraic symbols.

Indicator	MA 7.3.1.a Describe and create algebraic expressions from words, tables, and graphs
Extended Indicator	**MAE 7.3.1.a Match a simple algebraic expression involving addition and subtraction to a given table, chart, or illustration**
Indicator	MA 7.3.1.b Use a variable to describe a situation with an inequality
Extended Indicator	**MAE 7.3.1.b Identify a correct inequality**

MA 7.3.2 Modeling in Context: Students will create, use, and interpret models of quantitative relationships.

Indicator	MA 7.3.2.a Model contextualized problems using various representations
Extended Indicator	**MAE 7.3.2.a Recognize addition number sentences using various representations**

MA 7.3.3 Procedures: Students will apply properties to solve equations and inequalities.

Indicator	MA 7.3.3.c Given the value of the variable(s), evaluate variable expressions with respect to order of operations
Extended Indicator	**MAE 7.3.3.c Evaluate variable expressions with respect to order of operations in addition, subtraction, and multiplication with parentheses**
Indicator	MA 7.3.3.d Solve two-step equations involving integers and positive rational numbers
Extended Indicator	**MA 7.3.3.d Solve one-step equations involving addition or subtraction**
Indicator	MA 7.3.3.e Solve one-step inequalities involving positive rational numbers **MASTERY NOT EXPECTED**

K-12 Comprehensive Data Analysis/Probability Standard: Students will communicate data analysis/probability concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

DATA ANALYSIS/PROBABILITY CONCEPTS

MA 7.4.1 Display and Analysis: Students will formulate questions that can be addressed with data, and then organize, display, and analyze the relevant data to answer their questions.

Indicator	MA 7.4.1.a Analyze data sets and interpret their graphical representations
Extended Indicator	**MA 7.4.1.a Identify and interpret a data set**
Indicator	MA 7.4.1.b Find and interpret mean, median, mode, and range for set of data
Extended Indicator	**MAE 7.4.1.b Find the median for a set of data (the set will have an uneven number of members written in order)**

MA 7.4.3 Probability: Students will apply and interpret basic concepts of probability.

Indicator	MA 7.4.3.a Find the probability of independent compound events
Extended Indicator	**MAE 7.4.3.1 Determine the probability of a given event (always, sometimes, never)**
Indicator	MA 7.4.3.b Compare and contrast theoretical and experimental probabilities
Extended Indicator	**MAE 7.4.3.b Compare theoretical probabilities**

Nebraska Eighth Grade Math Standards and Extended Indicators

for

Students with Significant Disabilities

K-12 Comprehensive Number Sense Standard: Students will communicate number sense concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

NUMBER SYSTEM

MA 8.1.1 Number System: Students will represent and show relationships among real numbers.

Indicator	MA 8.1.1.a Compare and order real numbers
Extended Indicator	**MAE 8.1.1.a Compare and order positive and negative integers (-50 to 50)**
Indicator	MA 8.1.1.c Represent small numbers using scientific notation **MASTERY NOT EXPECTED**
Indicator	MA 8.1.1.d Classify numbers as natural, whole, integer, rational, irrational, or real
Extended Indicator	**MAE 8.1.1.d Classify numbers as natural or whole**

MA 8.1.3 Computation: Students will compute fluently and accurately using appropriate strategies and tools

Indicator	MA 8.1.3.a Compute accurately with rational numbers
Extended Indicator	**MAE 8.1.3.a Add and subtract decimals without regrouping**
Indicator	MA 8.1.3.b Evaluate expressions involving absolute value of integers
Extended Indicator	**MAE 8.1.3.b Determine the absolute value of a given situation**
Indicator	MA 8.1.3.d Select, apply, and explain the method of computation when problem solving using rational numbers
Extended Indicator	**MAE 8.1.3.d Select and apply the method of computation (addition, subtraction, multiplication, division) when problem solving**
Indicator	MA 8.1.3.e Solve problems involving ratios and proportions
Extended Indicator	**MAE 8.1.3.e Solve problems involving ratios**

MA 8.1.4 Estimation: **Students will estimate and check reasonableness of answers using appropriate strategies and tools.**

Indicator	MA 8.1.4.a Use estimation methods to check the reasonableness of solutions for problems involving rational numbers
Extended Indicator	**MAE 8.1.4.a Apply estimation to the nearest 10 on situations (story problems) results involving addition and subtraction**

K-12 Comprehensive Geometric/Measurement Standard: Students will communicate geometric concepts and measurement concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

GEOMETRIC/MEASUREMENT CONCEPTS

MA 8.2.1 Characteristics: Students will describe, compare and contrast characteristics, properties and relationships of geometric shapes and objects.

Indicator	MA 8.2.1.c Identify geometric properties of parallel lines cut by a transversal and related angles
Extended Indicator	**MAE 8.2.1c Identify geometric properties of parallel lines cut by a perpendicular transversal that create right angles.**
Indicator	MA 8.2.1.d Identify pairs of angles
Extended Indicator	**MAE 8.2.1.d Identify pairs of right angles**
Indicator	MA 8.2.1.e Examine the relationships of the interior angles to a triangle (e.g., the sum of the angles is 180 degrees)
Extended Indicator	**MAE 8.2.1.e Match congruent triangles based on interior angles**

MA 8.2.2 Coordinate Geometry: Students will identify locations using coordinate geometry

Indicator	MA 8.2.2.a Use coordinate geometry to represent and examine the properties of rectangles and squares using horizontal and vertical segments
Extended Indicator	**MAE 8.2.2.a Use coordinate geometry to determine the measurement of a side (rectangle, square)**

MA 8.2.5 Measurement: Students will select and apply appropriate procedures, tools, and formulas to determine measurements.

Indicator	MA 8.2.5.c Apply the Pythagorean theorem to find missing lengths in right triangles and to solve problems
Extended Indicator	**MAE 8.2.5.c Find the missing length and or height in a right triangle**
Indicator	MA 8.2.5.d Use scale factors to find missing lengths in similar shapes
Extended Indicator	**MAE 8.2.5.d Match similar geometric shapes represented in different scales**

K-12 Comprehensive Algebraic Standard: Students will communicate algebraic concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

ALGEBRAIC CONCEPTS

MA 8.3.1 Relationships: Students will represent and analyze relationships using algebraic symbols.

Indicator	MA 8.3.1.b Describe relationships using algebraic expressions, equations, and inequalities
Extended Indicator	**MAE 8.3.1.b Identify relationships using algebraic expressions**

MA 8.3.2 Modeling in Context: Students will create, use, and interpret models of quantitative relationships.

Indicator	MA 8.3.2.a Model contextualized problems using various representations
Extended Indicator	**MAE 8.3.2.a Recognize addition and subtraction number sentences using various representations**

MA 8.3.3 Procedures: Students will apply properties to solve equations and inequalities.

Indicator	MA 8.3.3.b Evaluate numerical expressions containing whole number exponents
Extended Indicator	**MAE 8.3.3.b Identify representations of numbers squared**
Indicator	MA 8.3.3.c Solve multi-step equations involving rational numbers
Extended Indicator	**MAE 8.3.3.c Solve one-step equations involving addition, subtraction and multiplication**
Indicator	MA 8.3.3.d Solve two-step inequalities involving rational numbers
Extended Indicator	**MAE 8.3.3.d Identify values that make inequalities true**

K-12 Comprehensive Data Analysis/Probability Standard: Students will communicate data analysis/probability concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

DATA ANALYSIS/PROBABILITY CONCEPTS

MA 8.4.1 Display and Analysis: Students will formulate questions that can be addressed with data, and then organize, display, and analyze the relevant data to answer their questions.

Indicator	8.4.1.b Compare characteristics between sets of data or within a given set of data
Extended Indicator	**Compare characteristics in a set of data**
Indicator	MA 8.4.1.d Select the most appropriate unit of central tendency for sets of data
Extended Indicator	**MAE 8.4.1.d Find the median for a set of data (the set will have an uneven number of members in random order)**
Indicator	MA 8.4.1.e Identify misrepresentation and misinterpretation of data represented in circle graphs and box plots
Extended Indicator	**MAE 8.4.1.e Recognize accurate representation of data in a circle graph**

MA 8.4.3 Probability: Students will apply and interpret basic concepts of probability.

Indicator	MA 8.4.3.a Identify complementary events and calculate their probabilities
Extended Indicator	**MAE 8.4.3.a Determine complementary events**
Indicator	MA 8.4.3.b Compute probabilities for independent compound events
Extended Indicator	**MAE 8.4.3.B Determine the probability for an independent event**

Nebraska Twelfth Grade Math Standards and Extended Indicators

for

Students with Significant Disabilities

K-12 Comprehensive Number Sense Standard: Students will communicate number sense concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

NUMBER SYSTEM

MA 12.1.3 Computation: **Students will compute fluently and accurately using appropriate strategies and tools.**

Indicator	MA 12.1.3.a Compute accurately with real numbers
Extended Indicator	**MAE 12.1.3a Add and subtract two-digit by two digit numbers with regrouping**
Indicator	MA 12.1.3.b Simplify exponential expressions
Extended Indicator	**MAE 12.1.3.b Recognize expanded forms of exponents (powers)**

MA 12.1.4 Estimation: **Students will estimate and check reasonableness of answers using appropriate strategies and tools.**

Indicator	MA 12.1.4.a Use estimation methods to check the reasonableness of real number computations and decide if the problem calls for an approximation or an exact number
Extended Indicator	**MAE 12.1.4.a Apply estimation to the nearest 10 on situations (story problems) results involving addition, subtraction, and multiplication**

K-12 Comprehensive Geometric/Measurement Standard: Students will communicate geometric concepts and measurement concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

GEOMETRIC/MEASUREMENT CONCEPTS

MA 12.2.1 Characteristics: Students will analyze characteristics, properties, and relationships among geometric shapes and objects.

Indicator	MA 12.2.1.d Apply geometric properties to solve problems
Extended Indicator	**MAE 12.2.1.d Apply the geometric property, length times width, to find the area of a rectangle**
Indicator	MA 12.2.1.e Identify and apply right triangle relationships
Extended Indicator	**MAE 12. 2.1.e Identify a right triangle**

MA 12.2.2 Coordinate Geometry: Students will use coordinate geometry to analyze and describe relationships in the coordinate plane.

Indicator	MA 12.2.2.a Use coordinate geometry to analyze geometric situations
Extended Indicator	**MAE 12.2.2.a Determine the coordinates for a point on a 7 x 7 or larger grid**
Indicator	MA 12.2.2.c Apply the distance formula **MASTERY NOT EXPECTED**
Indicator	MA 12.2.2.d Prove special types of triangles and quadrilaterals
Extended Indicator	**MAE 12.2.2.d Identify the properties of equilateral triangles**

MA 12.2.4 Spatial Modeling: Students will use visualization, spatial reasoning, and geometric modeling to solve problems

Indicator	MA 12.2.4.b Use geometric models to visualize, describe, and solve problems
Extended Indicator	**MAE 12.2.4.b Use geometric models to solve problems**

MA 12.2.5 Measurement: **Students will apply the units, systems and formulas to solve problems**

Indicator	MA 12.2.5.d Convert equivalent rates
Extended Indicator	**MAE 12.2.5.d Convert equivalent rates using money**

K-12 Comprehensive Algebraic Standard: Students will communicate algebraic concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

ALGEBRAIC CONCEPTS

MA 12.3.1 Relationships: Students will generalize, represent and analyze relationships using algebraic symbols.

Indicator	MA 12.3.1.a Represent, interpret, and analyze functions with graphs, tables, and algebraic notation, and convert among these representations
Extended Indicator	**MAE 12.3.1.a Interpret values of a function in a table**
Indicator	MA 12.3.1.c Identify the slope and intercepts of a linear relationship from an equation or graph
Extended Indicator	**MAE 12.3.1.c Identify a linear relationship from a graph**
Indicator	MA 12.3.1.d Identify characteristics of linear and non-linear functions
Extended Indicator	**MAE 12.3.1.d Compare linear and non-linear segments and graphs**
Indicator	MA 12.3.1.f Compare and analyze the rate of change by using ordered pairs, tables, graphs, and equations
Extended Indicator	**MAE 12.3.1.f Analyze the effect of the rate of change in a table or graph**

MA 12.3.2 Modeling in Context: Students will model and analyze quantitative relationships.

Indicator	MA 12.3.2.b Represent a variety of quantitative relationships using one variable inequalities, and linear equations
Extended Indicator	**MAE 12.3.2.b Solve the quantitative relationship of one variable inequalities using addition and subtraction**

MA 12.3.3 Procedures: **Students will apply properties to solve equations and inequalities.**

Indicator	MA 12.3.3.b Exponents **MASTERY NOT EXPECTED**
Indicator	MA 12.3.3.c Add and subtract polynomials. **MASTERY NOT EXPECTED**
Indicator	MA 12.3.3.d Multiply and divide polynomials. **MASTERY NOT EXPECTED**
Indicator	MA 12.3.3.f Identify and generate equivalent forms of linear equations **MASTERY NOT EXPECTED**

K-12 Comprehensive Data Analysis/Probability Standard: Students will communicate data analysis/probability concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

DATA ANALYSIS/PROBABILITY CONCEPTS

MA 12.4.1 Display and Analysis:

Students will formulate a question and design a survey or an experiment in which data is collected and displayed in a variety of formats then select and use appropriate statistical methods to analyze the data.

Indicator	MA 12.4.1.d Describe the shape and determine the center, spread, and outliers of a data set
Extended Indicator	**MAE 12.4.1.d Determine the range of a data set**

MA 12.4.3 Probability:

Students will apply and interpret basic concepts of probability.

Indicator	MA 12.4.3.b Identify dependent and independent events and calculate their probabilities
Extended Indicator	**MAE 12.4.3.b Differentiate between a dependent and independent event**
Indicator	MA 12.4.3.c Use the appropriate counting techniques to determine the probability of an event
Extended Indicator	**MAE 12.4.3.c Use the appropriate Counting Principle to determine the combinations for an event**
Indicator	MA 12.4.3.d Analyze events to determine if they are mutually exclusive
Extended Indicator	**MAE 12.4.3.d Determine if two events are mutually exclusive**